

ENVE 1000 Environmental Sustainability

Spring 2020

Course Information UPDATED:

Professor:	Christine Kirchhoff, P.E., Ph.D.
Find me:	Email: Christine.Kirchhoff@uconn.edu (when you email me, please include ENVE 1000 in subject line)
TA:	Berdakh Utemuratov
Find Berdakh:	Email, berdakh.utemuratov@uconn.edu
UA:	Lauren King
Find Lauren:	Email, lauren.a.king@uconn.edu
Course Format:	Online lectures and discussion each week
Lectures:	will be recorded and posted online – likely through TopHat with embedded questions
Discussions:	will be online adapted to fit course materials each week
Office Hours:	Prof. Kirchhoff, email for virtual appt. Berdakh Utemuratov, email for virtual appt.

Course Philosophy (NO CHANGE):

The overarching goal of this course is for students to begin a cognitive assessment of their own personal philosophies of 'environmental sustainability'. Achieving a greater degree of environmental sustainability requires making educated choices. These choices, both personal and societal, can be guided by quantitative tools to assess environmental impacts (e.g. lifecycle analysis to consider resources used and wastes generated) and by the implementation of social or economic policies; however, the decision paths followed are guided implicitly by individuals' and society's choices, philosophies, and values.

Course Description (NO CHANGE):

Detailed examination of anthropogenic impacts on the environment, resulting from the need for energy, food and shelter. Subtopics in the broad areas of energy, food and shelter will be grounded with case studies of UCONN activities/programs in sustainability as well as case studies of examples of urban and corporate sustainability efforts here in the US and abroad. Resolution of scientific/technological, public policy and economic aspects of environmental sustainability problems, including strategies for success, and possible pitfalls, in achieving environmental sustainability in the subtopic areas. This course fulfills general education requirements for area 2 (CA2) and for Environmental Literacy.

Course Objectives (NO CHANGE):

At the completion of the course, students will be able to:

(i) use correctly the language of environmental sustainability, including physical science, technology, public policy, economics and sociology, *thereby becoming articulate about environmental sustainability*;

- readings
- discussion assignments and tours – remember and understanding definitions
- homeworks
- exams

(ii) identify interconnections between specific human activities/lifestyles and impacts upon the natural environment, *thereby acquiring intellectual breadth in scientific/technological, public policy, and economic facets*

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of sustainability;

- readings
- discussion assignments – comprehension
- homeworks - data analysis

(iii) conduct necessary background library research to discuss a given environmental issue, *thereby acquiring skills to continue acquisition and use of knowledge, particularly through composition of supported viewpoint papers;*

- homeworks - data analysis

(iv) perform critical evaluation of environmental problems using reasoned judgment and logical arguments, *thereby acquiring critical judgment about environmental sustainability;*

- discussion & homework assignments

(v) demonstrate moral sensitivity about global societies and future generations, *thereby acquiring awareness of their era and society regarding global climate change and environmental degradation through all topics and increasing awareness of cultural diversity ;* and

- discussion & homework assignments

(vi) work effectively in groups with members from different disciplinary backgrounds, *thereby increasing intellectual breadth and diversity awareness.*

- discussion assignments

Course Topics (NO CHANGE):

Wk 1: Overview – What is sustainability?

- Sustainability definitions; sustainability science
- Recognize system boundaries

Wk 2 – 4: Energy & Climate

- Understand the difference between weather and climate
- Explain the connection between energy generation and climate change
- Examine different methods of electrical power generation
- Examine economic, policy and other drivers to promote adoption of more sustainable practices
- Analyzed different actions and their impact on climate

Wk 5 - 7: Water & Ecosystems

- Understand water cycle, uses, and sustainability challenges
- Understand virtual/embedded water concept
- Learn and apply water footprint
- Understand mechanisms to address water sustainability challenges and difficulty of accounting for environment or equity issues

Wk 8 - 10: Food Systems

- Understand food systems and sustainability challenges
- Analyze sustainability concepts in organic vs. local food
- Understand mechanisms to address food system sustainability challenges

Wk 11-13: Urban Systems

- Describe patterns of land use
- Identify why development patterns are not sustainable
- Compare and contrast low impact design elements
- Examine public policy drivers to promote more sustainable development practices

Wk 14: Wrap-up

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COURSE POLICIES

Class Preparation UPDATED:

Textbook readings are listed on the course schedule. The textbook is free and is available (see Textbook Resources next page). Additional materials referenced in recorded lectures will be posted on HuskyCT. Slides will be posted on HuskyCT under the appropriate week/section and within the lecture folder for that week. Lectures will be named by the week # and lecture #. To the extent possible, weekly lecture and discussion materials will be made available on HuskyCT by Monday each week.

Policy for Late or Missed Assignments UPDATED:

For full credit, assignments must be turned in by the due date at the specified time on HuskyCT. Late assignments will be penalized 20% for each day late past the due date. Given the global pandemic, I expect students may need additional time to turn in assignments. If that is the case, email me and cc: Lauren and Berdakh that you need additional time so everyone is on the same page.

Plagiarism (NO CHANGE):

All work that students present in this course must be their own. It is permissible to use arguments made by others or available data to support a position; however, this should be limited to short passages and proper credit must be given to the original author. Presenting others work as your own violates the University of Connecticut code on plagiarism and requires that actions be taken which may include dismissal from the university. More information about plagiarism can be found at: <https://lib.uconn.edu/services/ask/get-help/writing/plagiarism-resources/>. The University of Connecticut policy on Academic Misconduct is contained within the Student Code: <https://community.uconn.edu/the-student-code-appendix-a/>

Student Conduct (NO CHANGE):

As members of the University community, students have an obligation to uphold [The Student Code](#) including adhering to the highest standards of academic integrity and personal and interpersonal conduct. I expect all students will refrain from engaging in behaviors (e.g., disruptive, harming, endangering, etc.) that violate The Student Code or the [Academic Integrity in Undergraduate Education and Research](#) policy.

Other Helpful Sources of Information UPDATED:

Division of Student Affairs - <https://studentaffairs.uconn.edu>

Center for Students with Disabilities to arrange academic accommodations – <https://csd.uconn.edu>

Counseling and Mental Health Services - 234 Glenbrook Road, 860-486-4705

For immediate help, request an “on-call therapist”

[http://counseling.uconn.edu/](http://counseling.uconn.edu) Beginning Monday 3/23/20 through the end of the semester, SHAW-Mental Health will be moving to exclusively telehealth (online) or phone platforms for providing services to students. We ask that students call our office at 860-486-4705 before walking to the office.

<https://suicideprevention.uconn.edu>

Sexual violence, domestic violence and stalking awareness support - <http://titleix.uconn.edu/>

COVID-19 RESOURCES

UConn Health has opened a COVID-19 Call Center to address [questions and concerns related to coronavirus](#). It is open from 8 a.m. to 5 p.m. weekdays and is available to UConn employees, patients, students, and the community. Questions and concerns can be directed to 860-679-3199.

The university has a webpage for COVID-19 Updates. <https://uconn.edu/public-notification/coronavirus/>

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COURSE MATERIALS, DELIVERABLES AND DUE DATES

Top Hat Classroom Response System UPDATED:

We will still use Top Hat (www.tophat.com) for Asynchronous Teaching which will enable the familiar lecture interspersed with questions format we used in our regular lectures. I will assign lectures as an assignment in TopHat. We'll troubleshoot as needed as we roll this out.

You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system. An email invitation will be sent to you by email, but if don't receive this email, you can register by simply visiting our course website: <https://app.tophat.com/e/037356> and using Join Code **037356**. Don't worry if you don't see any content in the course right away. Content will be made available as we progress through the semester.

Top Hat requires a paid subscription, and a full breakdown of all subscription options available can be found here: www.tophat.com/pricing.

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling **1-888-663-5491**.

Textbook and Readings (NO CHANGE):

We use a free textbook Theis and Tomkin (Eds) 2012. *Sustainability: A Comprehensive Foundation*, available online at: https://cnx.org/contents/F0Hv_Zza@45.1:HdWd2hN5@2/Foreword. Readings are noted on the course schedule and HuskyCT. Other readings and materials will be posted to HuskyCT.

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Course Work and Due Dates UPDATED:

PRE-SPRING BREAK **up to 52.5 points earned** out of 100

Assignments for Th/F Discussion Sections							
Assignment	Description	Pts	Due	Assignment	Description	Pts	Due
Th/F Discussion Tours 4 of 10 points	Cogen	2	Attend tours, turn in sheets at end of tour	Th/F Discussion 14 of 17 points	#1 Motivation	3	Attend discussion, turn in write up at end of class
	RWF	2			#2 EcoFootprint	3	
	Dining	2			#3 Flint	5	
	Green Bldgs	2			#4 SVSF	3	
	Stormwater	2			#5 Compare	3	
Assignments for M/W Lectures including Homeworks							
Assignment	Description	Pts	Due	Assignment	Description	Pts	Due
Homework 16 of 32 points	#1 – C-LEARN	8	Feb. 12	Lecture (Top Hat) 3.5 of 7 points	Respond to in class questions	7	M/W lectures
	#2 – Ftprints	8	Mar. 4			3.5	
	#3 – Food	8	Apr. 1			3.5	
	#4 – Sustainable Communities	12 8	Apr. 22	Exams 15 of 30 points	Exam 1	15	Mar. 9
					Exam 2	15	Apr. 29
Total = 100 points possible – So far up to 52.5 points earned							

POST-SPRING BREAK **up to 47.5 points remaining**

Remaining Homeworks			
Homework #	Assignment Description	Points	Due 2 Wednesdays at Midnight
HW #3	Food – Hunger	8	April 1, 11:59 pm
HW #4	Sustainable Cities	8	April 22, 11:59 pm
Remaining TopHat			
Week	Assignment Description	Points	Due Fridays at Midnight
Weekly	Embedded in videos	3.5	March 26, April 2, 9, 16
Remaining Weekly Discussions			
Week	Assignment Description	Points	Due Sundays at Midnight!
9	UCONN Dining	3.25	3/29, 11:59pm
10	HW#3 Discussion	3.25	4/5, 11:59 pm
11	Old Discussion #5	3.25	4/12, 11:59 pm
12	UCONN Stormwater	3.25	4/19, 11:59 pm
Remaining Exam			
Week	Assignment Description	Points	Due
14	Exam 2 Administered Online	15	Wednesday, April 29
Total = 47.5 points possible			

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PRE-SPRING BREAK COURSE SCHEDULE

Week # Start Date	Textbook Readings	Monday Lecture	Wednesday Lecture	Discussion (Th/F/F)
Overview – What is Sustainability?				
Week 1 Jan. 20	N/A	Do not meet in-class this week (No Lecture/No Discussion this week). Do watch three (3) brief introductory videos and complete On-line Discussion #1: Motivation due Friday, Jan. 24.		
Energy & the Changing Climate				
Week 2 Jan. 27	Ch. 1 Ch. 3, pgs. 50-63, 76- 88, 98-115	Broad overview & history of energy system; challenge of scale	Energy – climate connection; Overview of climate system & GHGs HW #1: C-LEARN intro	UCONN Tour – Cogen Facility - CONFIRMED <i>Meet at Central Utility Plant 1st Floor Classroom</i>
Week 3 Feb. 3	Ch. 8, pgs 303-308,	A changing climate – future projections and mitigation; Climate system momentum	Adaptation; concept of non-stationarity	Introduce HW#1 and Discuss Background Materials and Strategies
Week 4 Feb. 10	337-351, 384-399	<i>Guest Speaker: Richard Miller</i> UConn OEM, Climate Action Plan - CONFIRMED	Wrap-up and Discuss HW #1 HW #1 Due	Watch Environmental Footprint Video Discussion #2: Ecological Footprint
Water and Ecosystems				
Week 5 Feb. 17	Ch. 4, pgs 117 - 134	Broad overview of water/ecosystems challenges	Efforts to mitigate challenges – theory HW #2: Water Footprint	UCONN Tour – Water Reclamation Facility - CONFIRMED <i>48 LeDoyt Road Extension, meet at WRF</i>
Week 6 Feb. 24	Ch. 5, pgs 151 – 179,	Efforts to mitigate challenges – applications/tools	Efforts to mitigate challenges – applications/tools	Introduce Flint Water Crisis and begin Discussion #3: Flint Water Crisis
Week 7 Mar. 2	184 - 209	<i>Guest Lecture David Radka -</i> Sustainability CT Water Systems CONFIRMED	Wrap-up and Discuss HW #2 Review for Exam 1 HW #2 Due	Conclude Discussion #3

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PRE-SPRING BREAK COURSE SCHEDULE – CONTINUED – DO NOT USE

Week # Start Date	Textbook Reading	Monday Lecture	Wednesday Lecture	Discussion (Th/F/F)
Food Systems				
Week 8 Mar. 9	Ch. 4, pgs 135-147	Exam 1	Broad overview of system and challenges HW #3 Food	<i>Guest Speakers: Student Farmers</i> from UConn Spring Valley Student Farm – CONFIRMED Discussion #4: Reflect SVSF
Spr. Brk.!	Ch. 10,	Enjoy Spring Break (March 15 – 21)		
Week 9 Mar. 23	pgs. 501- 502, 506- 508	Efforts to mitigate challenges – theory	<i>Guest Speaker: Michael White, Asst.</i> Director UConn Dining Services CANCELLED	UConn Tour – Dining Services – CANCELLED – replaced with online video & discussion TBD
Week 10 Mar. 30		Efforts to mitigate challenges – applications/tools	Discuss HW#3 and Wrap up Food Systems HW #3 Due	Weekly discussion due
Urban Systems: Green Building & Livable Cities				
Week 11 Apr. 6		Broad overview of system and challenges HW#4: Sust. Communities	Efforts to mitigate challenges	UConn Tour – Green Buildings and LID CANCELLED Replacement discussion planned
Week 12 Apr. 13	Ch. 11, pp. 525-547	Efforts to mitigate challenges	Efforts to mitigate challenges	Discussion #5: Compare and Contrast
Week 13 Apr. 20		<i>Guest Speaker: Carol Atkinson- Palombo, Associate Professor, Department of Geography, Director of Environmental Studies - CONFIRMED</i>	Discuss HW#4 and Wrap up Urban Systems HW #4 Due	UConn Tour – Stormwater Management CANCELLED – replaced with online video & discussion
Wrap-up				
Week 14 Apr. 27	None	Wrap up & Review for Exam	Exam 2 – TBD delivery	No discussion this week. No FINAL EXAM. Good luck with finals and enjoy your summer!

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POST- SPRING BREAK ADJUSTED COURSE SCHEDULE

Week # Start Date	Textbook Reading	Online Lectures	Discussion (Th/F/F)
Food Systems			
Spr. Brk.!		Enjoy Spring Break (March 15 – 21)	
Week 9 Mar. 23	Ch. 4, pgs 135-147 Ch. 10, pgs. 501- 502, 506- 508	Week 9 will focus on food waste and how to mitigate it.	Sustainable UCONN Dining Services Online video & discussion Due Sunday, March 29, 11:59pm
Week 10 Mar. 30		Week 10 will focus on unsustainable vs. sustainable agricultural production HW #3 Due – Wednesday, April 1, 11:59pm	HW#3 Discussion Board Due Sunday, April 5, 11:59pm
Urban Systems: Green Building & Livable Cities			
Week 11 Apr. 6		Week 11 will introduce urban systems and challenges to sustainability HW#4: Sust. Communities will open April 6, 2020	Discussion #5 Due Sunday, April 12, 11:59pm
Week 12 Apr. 13	Ch. 11, pp. 525-547	Week 12 will focus on green building and low impact design	Sustainable UCONN Stormwater Management Online video & discussion Due Sunday, April 19, 11:59pm
Week 13 Apr. 20		<i>Guest Speaker: Carol Atkinson-Palombo, Associate Professor, Department of Geography, Director of Environmental Studies - CONFIRMED – moved online and will be pre-recorded</i> Release Exam Study Guide HW #4 Due – Wednesday, April 22, 11:59pm	Collaborate Session for Review (recorded for those who can't make it)
Wrap-up			
Week 14 Apr. 27	None	Exam 2 – Online delivery Wednesday, April 29	